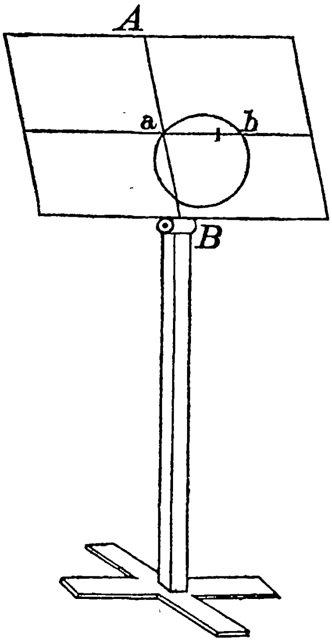
1867MNRAS..27..274A

The Moon's limb was utterly invisible. Power employed 74, or my 4·2 inch Equatoreal of 61 inches focal length.

Forest Lodge, Maresfield,
May 1867.

On a Plan for Fixing the Position of Solar Spots. By E. D. Ashe, Commander R.N., Director of the Observatory, Quebec.

Not remembering that Mr. Carrington had given in the *Monthly Notices* a plan of fixing the position of a spot upon the Sun's disk, I devised a mode of doing so for myself; and, as I think that it is simple and suited to the smallest telescope, I dare say it may be useful.

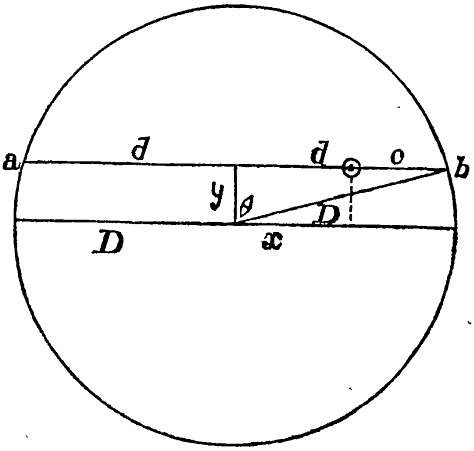


Any telescope that has an equatorial stand is first placed with its polar axis (as near as you can guess) parallel to the axis of the Earth; you then place a screen, having two lines drawn at right angles to one another, in such a position that the spot will move along one of them.

Move the telescope so that the Sun is well to the right of the line *A B*.

Mark the time by a watch that the limb (a) cuts the line *A B*, and also the time that the spot is bisected, and, lastly, the time that the following limb (b) cuts the line *A B*.

You have got by these three simple observations all that is required.



Take half the time of describing the chord ($a\,b$), and call it (d).

Take the number of seconds between the spot and limb (b), and call it (c).

Then, as the time of the Sun's semidiameter passing the meridian is given in the *Nautical Almanac*, page 1, we have D given, and then

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$$d - c = x \quad . \quad . \quad . \quad . \quad . \quad (1)$$

$$\frac{d}{D} = \sin \theta$$

$$D \cos \theta = y \quad . \quad . \quad . \quad . \quad . \quad (2)$$

N.B. Mean time is turned into Sidereal time by adding $0^{s}{\cdot}18$ to the time of Sun's passing the meridian.

The advantage of not requiring any "wire frame" in the telescope is very great.

EXAMPLE.

June 1, 1866.

$$\left.\begin{array}{l} d = 65^{s}{\cdot}5 \\ c = 7{\cdot}0 \\ D = 68{\cdot}4 \end{array}\right\} \quad \begin{array}{r} 65{\cdot}5 \\ -\ 7{\cdot}0 \\ \hline 58{\cdot}5 \\ \hline \end{array} = x;\ y = 19{\cdot}71.$$

65·5	1·81624	cos θ .	9·45968	
68·4	1·83505		1·83505	
sin θ .	9·98119	y =	1·29473	19·71

Comet II. 1867.

Discovered by M. Tempel 3d April, 1867—

R.A. = 225° 45′   Decl. S. = 2° 27′.

The following elements, calculated by Dr. Peters from the original observation of April 3, observations at Leipzig and Berlin, 12 April, at Berlin 21 April, and Hamburg 25 April, are given *Ast. Nach.* No. 1638:—

T = 1867, Feb. 27·88264, Berlin M.T.

$$\left.\begin{array}{lcr} \pi & = & 162^{\circ}\ 40'\ 17'' \\ \Omega & = & 168\ \ 35\ \ 31 \\ \iota & = & 6\ \ \ 7\ \ \ 0 \end{array}\right\} \text{App. Equinox, April 21.}$$

Log q = 0·05090.

Motion direct.

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